This Brief is Unclassified

Consortium Industry Day "Evolving Toward Revolutionary Spectrum Change: A Call to Action"





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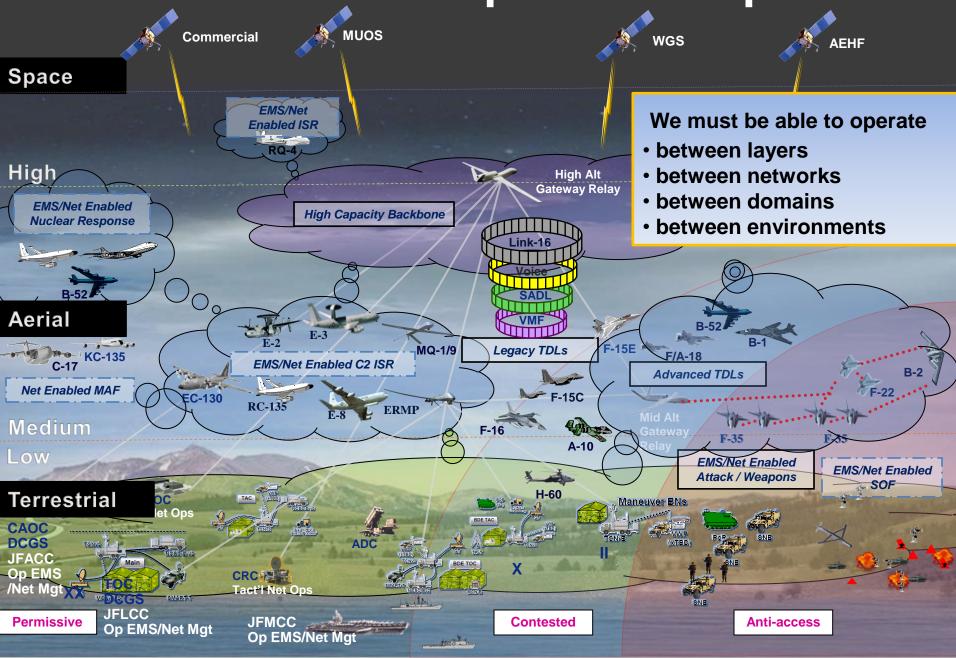
DoD Chief Information Officer

5 December 2014

SUPPORT THE WARFIGHTER



Mission Success Depends on Spectrum



New Spectrum Realities/New Operating Realities

- Mobile broadband is a disruptive technology transformation
 - Key platform for technology innovation in the US
 - Engine for economic growth and job creation
- Spectrum capabilities also provide an innovation platform for DoD
 - Growing requirements to gather, analyze and share information rapidly, control more ISR assets; train as we must fight and gain access into denied areas
- Dynamic tension between balancing both sets of user requirements
 - DoD actively supports National economic goals for wireless broadband (500 MHz)
 - Collaborating with partners on solutions

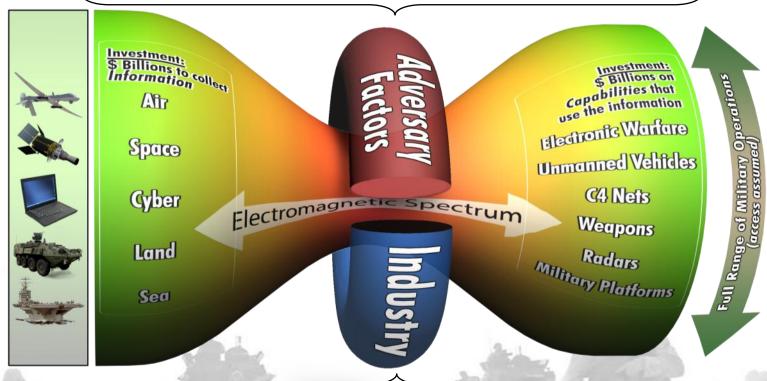
SUMMARY OF ECONOMIC BENEFITS OF SHARED SPECTRUM IN THE US, PRESENT VALUE OVER THE PERIOD 2018-2030, \$BN



Why This Matters: DoD Operational Implications

- Directed Energy (EMP, HPM, laser)
- GPS jammers

- Digital RF Memory
- MMW
- Advanced C2 nets
- Weaponized COTS
- Proliferation



- Broadband Technologies
- IEEE Standards

- Speed/Throughput/ Streaming Content
- · Economic Growth
- Jobs Creation

The foundation upon which DoD builds weapons systems is changing; DoD efforts to recognize and to build to a new foundation are critical to national security

Goal: Global Operational Flexibility

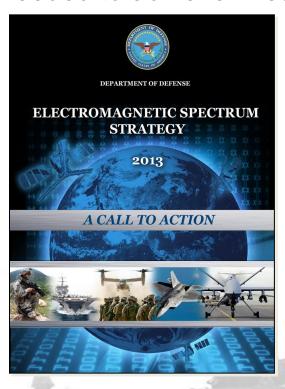
"Like air, space, land, maritime, and cyberspace domains, military forces maneuver within the EMS to gain tactical, operational, and strategic advantages. The EMS transcends all these domains and enables mission execution within each and ensures overall operational superiority."

- National Military Strategic Plan for Electronic Warfare (2013)

- DoD efforts to improve spectrum management must converge toward an end goal of global operational flexibility
- Objective: Joint Electromagnetic Spectrum Operations, which requires evolutionary change
 - Assured spectrum access, efficient and effective use once access is gained
- JEMSO: EW and EMS management activities used to exploit, attack, protect and manage the spectrum operating environment to achieve the Commander's objectives
- To make JEMSO a reality, other change agents/enablers needed
 - Link Spectrum Strategy to operational requirements, current capability gaps, broader mission goals
 - Bring about internal and external cultural change to improve the definition, governance, use and control of the spectrum

Vision for Change: Spectrum Strategy

EMS Strategy's Vision: "Spectrum access when and where needed to achieve mission success"

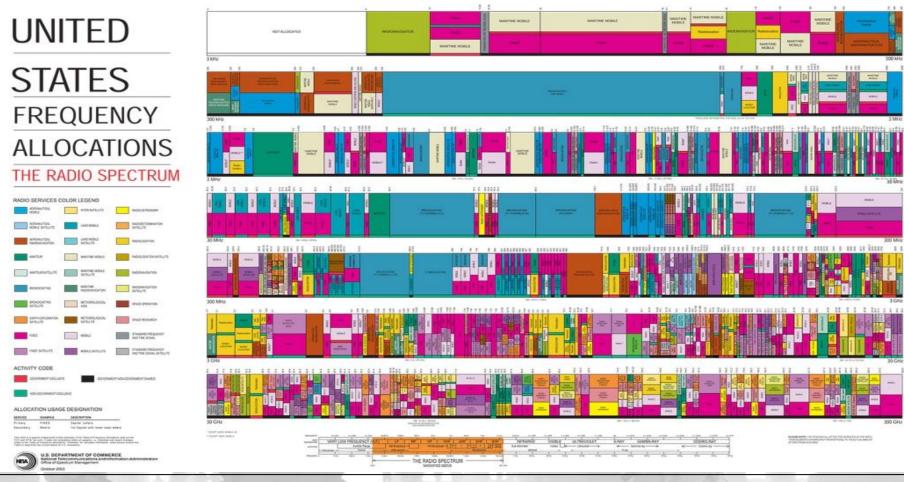


"Call to action," 3 goals:

- Expedite development of SDS with increased efficiency, mutability, flexibility and adaptability
- Increase agility of DoD operations
- Sharpen responsiveness to ongoing spectrum regulatory and policy changes

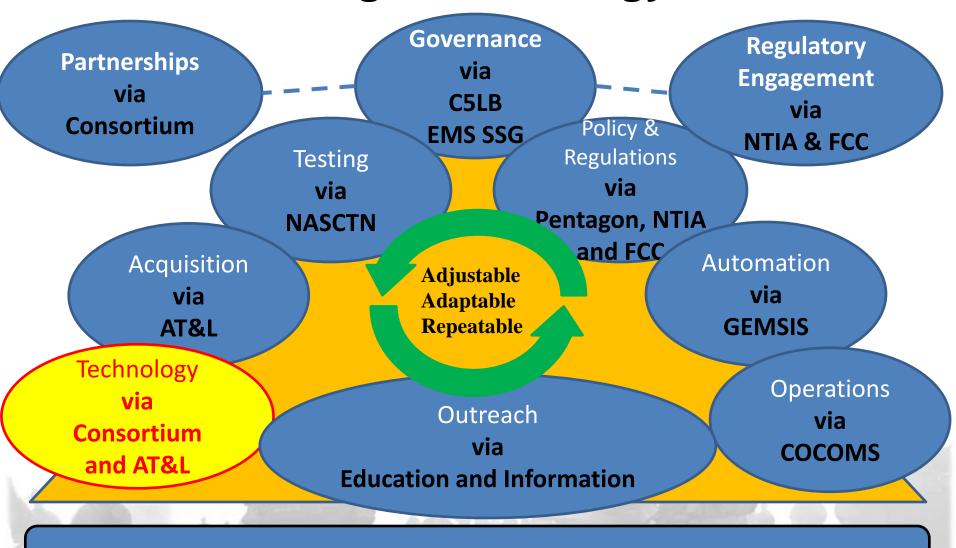
Focus on 'deep tissue' change: Cultural transformation; shift from reactive to proactive; governance, accountability and oversight; collaboration and partnerships; technology embracing

Dynamic, Flexible, Cognitive, Mutable Ops



- •Dynamic, Flexible, Cognitive ops selects operating frequencies allowed by policy and locally free from use
- •If the environment changes, system adapts frequencies to avoid interference to legacy users

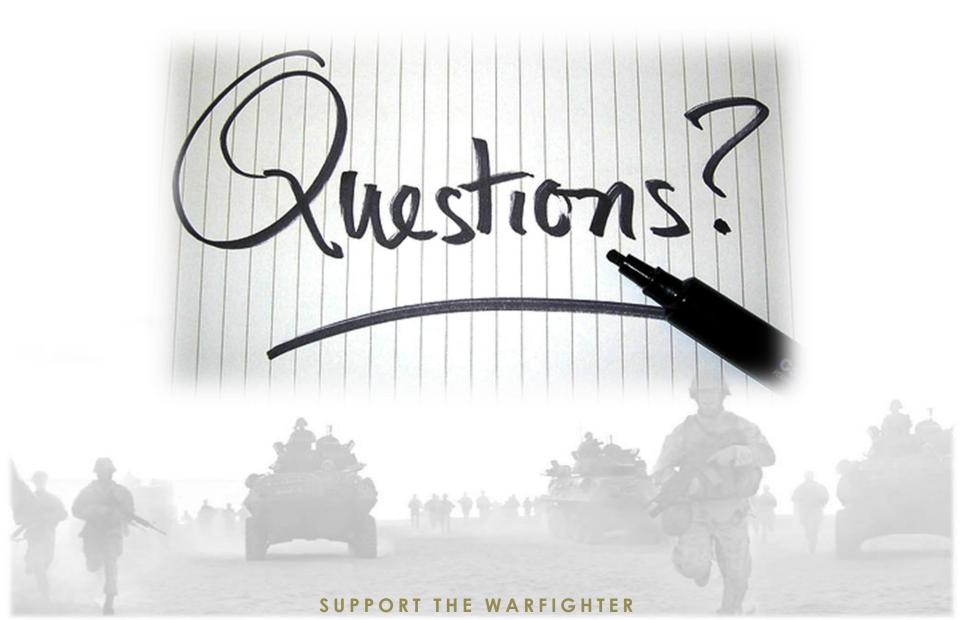
End-to-End Integrated Strategy Execution



EVOLUTIONARY CULTURE CHANGE!

Conclusion

- We have taken deliberate action implementing and executing a proactive vs reactive strategy
- Advocating spectrum sharing techniques, technologies and processes
- Building and continuing partnerships with all stakeholders
- Promoting innovation
- Encouraging R&D/S&T EMS Technology Investment
- Accountable and responsive governance
- Revolutionary changes
- Evolutionary approach
- End-to-End Integrated approach is key
- Consortium is key cornerstone



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